Prevention Training Issues

> **Awareness** Prevention

Development

Prevention Policy

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> Prevention in Operations

Design and Plans

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Prevention **Authorities** Appendix A:

Appendix B: **Mandates** Training

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Hazardous Materials

Prevention Training Guidelines

Transportation/Facility Prevention Program Management

Transportation/Facility Prevention Program Management

General Training Considerations

Introduction

Prevention Program Management describes the training requirements of persons who develop or manage prevention programs and activities for hazardous materials facilities. In this context, the terms "transportation/facility" are broadly defined to include governmental (sewage treatment, utilities, etc.), private sector (large and small businesses), and nonprofit organizations that process, store, handle, or transport hazardous materials.

Persons performing Transportation/Facility Prevention Program Management are responsible for ensuring worker and public safety in hazardous materials operations. In this role, they implement the organizational policy and direction established by senior managers (see *Prevention Policy Development*). Tasks include conducting and/or supervising staff and consultants (e.g., architects, engineers, and other technical specialists) in the following types of prevention activities:

- Assisting senior managers in writing prevention policy, establishing prevention goals, designing
 related administrative systems, assessing budgets, promoting interagency coordination, developing
 evaluation criteria, and so forth.
- Researching and assessing prevention legal requirements chemical hazards, potential incident impacts, and organizational capabilities.
- Analyzing prevention strategies and options (i.e., activities designed to prevent and mitigate accidental releases of hazardous materials).
- Determining prevention training needs, developing course materials, managing training programs, and delivering instruction.
- Developing prevention program staff plans and schedules, negotiating subcontractor arrangements, assigning personnel, monitoring and evaluating performance, and tracking expenditures.
- Implementing specific prevention activities (e.g., legal research, hazard assessment, operations safety, inventory control, transportation safety, compliance enforcement).
- Monitoring progress, evaluating outcomes, and recommending organizational and programmatic changes to improve safety.

In smaller operations, the distinction between Prevention Policy Development and Prevention Program Management may seem artificial since the same person performs both roles. However, as defined in this training classification, Prevention Program Management requires more specialized knowledge about prevention and greater technical skills. Specifically included are methods for hazards assessment, prevention program planning, prevention systems and procedures development, and prevention activity implementation and evaluation. Persons with dual responsibilities in Prevention Policy Development and Prevention Program Management may need training in both areas.

Training Audience

The training audience for Transportation/Facility Prevention Program Management consists of supervisory-level personnel from organizations that process, store, handle, or transport hazardous materials. Specifically included are large and small operations managed or authorized by federal, state, and local government entities. In some organizations and operations, the role may be identified as a primary job title (e.g., safety officer, risk manager). In others, the responsibility is assumed by management or operations personnel (e.g., production manager, systems manager, lead operator, organizational planner, etc.).

The job and training requirements of individual audience members will vary greatly depending on their roles and responsibilities. For example, the needs of supervisors in facilities that produce large quantities of highly hazardous chemicals will exceed those of employees in smaller retail operations. For this reason, training requirements for this curriculum area have been further subdivided as follows:

General Training Considerations

- A: Smaller, Less Complex Operations describes the training needs of persons that manage the
 prevention programs of smaller users and distributors of hazardous materials. Operations in these
 facilities are likely to be relatively simple and subject to fewer regulatory requirements; therefore,
 related training requirements are also simplified. Organizational examples might include retail outlets,
 smaller storage facilities, trucking firms, health care facilities, propane and heating oil distributors,
 etc.
- B: Larger, More Complex Operations describes the training needs of persons that manage prevention programs for larger producers, processors, and distributors of hazardous materials. This category typically includes Standard Industrial Classification (SIC) codes commonly associated with the chemical industry, all operations subject to OSHA's Process Safety Management (PSM) standard (29 CFR 1910.119), and major transporters of regulated chemicals. Organizational examples might include larger chemical manufacturers, refineries, raw materials processors, factories, utilities, sewage treatment plants, pipelines, and so forth.

In most communities, the great majority of training audience members fall in Category A. For this group, a more limited awareness and knowledge-based training program is considered appropriate, in contrast to the comprehensive and technical training requirements identified for Category B. However, training managers should recognize that a continuum of instructional needs exists in the real world, and that courses must be tailored accordingly.

Training Requirement

Candidates for instruction in this curriculum area are assumed to already possess basic management skills and expertise in their assigned areas of responsibility (production operations, employee safety, etc.). Thus, the goal of training is to improve leadership and enhance safety programs by providing students with supplementary knowledge and skills in hazardous materials prevention and related activities.

All audience members will benefit by generic training in hazardous materials prevention concepts, techniques, and applications. Possible content areas include:

- The prevention program manager's role and responsibilities.
- The organization's prevention mission and policies.
- State-of-the-art prevention program strategies, concepts, and techniques.
- Methodologies to enhance program planning, implementation, monitoring, and evaluation.
- Problem solving methods and techniques.

However, for instruction to be most effective, audience members should be grouped to the extent possible by prevention program type and the technical requirements of the job. Training can then address any specialized knowledge and skills needed by different segments of the audience. Possible content areas for advanced training include legislative and regulatory requirements, hazard assessment and hazards analysis techniques, planning strategies, and prevention technologies.

Training Methodology Recommendations

General training in Transportation/Facility Prevention Program Management can usually be accomplished in one to three days of instruction. More time may be appropriate for audiences with greater needs. Instructional methodologies should emphasize relevant examples taken from the types of agencies and facilities represented in the audience. Participant activities should highlight innovative approaches to prevention and practical solutions to common problems. Other training methodology recommendations and considerations include the following:

 Training should be placed in context by emphasizing the jurisdiction's strategies and methods for developing a disaster resistant community. Instruction should encourage the coordination of agency and facility efforts to strengthen state and local prevention programs and activities. Training Issues

Prevention Awareness

Prevention
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Prevention Program

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Prevention in Operations

Design and Plans Review

Inspection & Enforcement

Appendix A: Prevention Authorities

Appendix B: Training Mandates

Federal Programs

Appendix D: 0SHA 1910.119

Transportation/Facility Prevention Program Management

General Training Considerations

- Student activities should encourage participant interaction and provide ample opportunities for practice and application of acquired skills. Checklists, job aids, and other practical tools should be included in the course materials.
- Activities should focus on the development of useful work products (e.g., hazards analyses, work plans, program strategies, etc.) under classroom conditions that are as realistic as possible. Methods to transfer learning back to the job should be emphasized whenever possible.
- Instructors need significant practical experience and technical expertise in prevention programs relevant to the audience's needs. Familiarity with state and local program requirements and systems is also important.

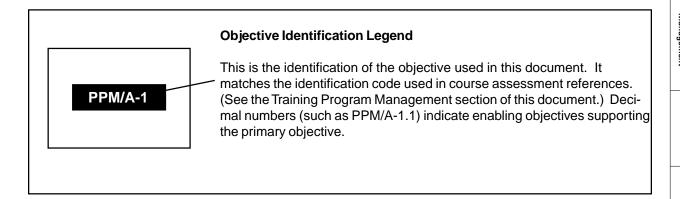
Recommended Training

Recommended Training

Transportation/Facility Prevention Program Management Category A: Smaller, Less Complex Operations

Two types of statements are used to describe training requirements recommended for Prevention Program Management. Terminal objectives identify broad job competencies. Enabling objectives describe instructional competencies that lead to proficiency in the terminal objective. Together, these statements identify generic training needs for all audience members. Hazardous materials training managers are encouraged to refine this material as necessary to clarify the training requirements of different audience groups (e.g., retail operations, health care facilities, etc.).

The training objectives presented in the next section are consistent with federal requirements and national standards. Included are FEMA and NRT planning guidelines for communities and facilities, DOT Transportation Regulations, various OSHA worker safety guidelines, EPA requirements, and guidance disseminated by the chemical industry.



Identification

Recommended Training Objectives

	,
PPM/A-1	Given an overview of prevention concepts and activities (see <i>Prevention Awareness</i>), describe general prevention requirements and guidelines for smaller hazardous materials operations.
PPM/A-1.	Describe the purpose, applicability, and general requirements of OSHA's General Safety and Health Provisions (29 CFR 1910.20).
PPM/A-1.	2 Describe the purpose, applicability, and general requirements of EPA's Accidental Release Prevention Requirements (40 CFR Part 68).
PPM/A-1.	Describe the purpose, applicability, and general requirements of OSHA's Hazard Communication Standard (29 CFR 1910.1200).
PPM/A-1.	Describe the purpose, applicability, and general requirements of DOT's Hazardous Materials Regulations (49 CFR Parts 171-179).
PPM/A-1.	Describe the purpose, applicability and general requirements of other federal legislation on regulations that impact prevention in specific training audience organizations.
PPM/A-1.	6 Describe the purpose, applicability, and general requirements of state and local

regulations and codes governing prevention in smaller operations.

Recommended Training

PPM/A-2	Given an overview of prevention authorities and program options, prepare a hazardous
	materials prevention program management plan.

- **PPM/A-2.1** Describe guidelines and methods for researching prevention authorities and statutory mandates.
- **PPM/A-2.2** Describe guidelines and methods for conducting a hazard assessment, including a worst case analysis and accident history.
- **PPM/A-2.3** Describe guidelines and methods for preparing and formatting a hazardous materials prevention program management plan for smaller operations.
- **PPM/A-2.4** Describe guidelines for developing an organizational strategy for prevention program activities that addresses:
 - Short- and long-term goals, measurable objectives, and evaluation criteria.
 - Analysis of program activities and options.
 - Resources and administrative support systems and procedures.
 - Staffing assignments and contractor requirements.
- Describe guidelines and methods for coordinating the planning process and communicating results to senior managers and community officials.

Given an approved prevention program management plan, conduct and/or supervise the implementation, monitoring, evaluation, and continual refinement of the prevention program.

- **PPM/A-3.1** Describe strategies and methods for implementing prevention program elements, activities, and procedures.
- PPM/A-3.2 Describe strategies and methods for monitoring, evaluating, refining, and continually updating prevention program elements and activities.
- **PPM/A-3.3** Describe common shortfalls and opportunities in implementing, evaluating, and maintaining hazardous materials prevention programs.

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Recommended Training

Recommended Training

Transportation/Facility Prevention Program Management Category B: Larger, More Complex Operations

Two types of statements are used to describe training requirements recommended for Prevention Program Management. Terminal objectives identify broad job competencies. Enabling objectives describe instructional competencies that lead to proficiency in the terminal objective. Together, these statements identify generic training needs for all audience members. Hazardous materials training managers are encouraged to refine this material as necessary to clarify the training requirements of different audience groups (e.g., retail operations, health care facilities, etc.).

The training objectives presented in the next section are consistent with federal requirements and national standards. Included are FEMA and NRT planning guidelines for communities and facilities, DOT Transportation Regulations, various OSHA worker safety guidelines, EPA reguirements, and guidance disseminated by the chemical industry.

Objective Identification Legend This is the identification of the objective used in this document. It matches the identification code used in course assessment references. PPM/B-1 (See the Training Program Management section of this document.) Decimal numbers (such as PPM/B-1.1) indicate enabling objectives supporting the primary objective.

Identification

amandad Training Objectives

Identification	Recommended Training Objectives
PPM/B-1	Given an overview of prevention concepts and activities (see <i>Prevention Awareness</i>), describe general prevention requirements and guidelines for larger hazardous materials operations.
PPM/B-1	Describe the purpose, applicability, and general requirements of OSHA's General Safety and Health Provisions (29 CFR 1910.20).
PPM/B-1	Describe the purpose, applicability, and general requirements of OSHA's Process Safety Management Standard (29 CFR 1910.119)
PPM/B-1	Describe the purpose, applicability, and general requirements of EPA's Accidental Release Prevention Requirements (40 CFR Part 68).
PPM/B-1	Describe the purpose, applicability, and general requirements of OSHA's Hazard Communication Standard (29 CFR 1910.1200).
PPM/B-1	Describe the purpose, applicability, and general requirements of DOT's Hazardous Materials Regulations (49 CFR).
PPM/B-1	Describe the purpose, applicability and general requirements of other federal legislation on regulations that impact prevention in specific training audience organizations.
PPM/B-1	7 Describe the purpose, applicability, and general requirements of state and local

regulations and codes affecting hazardous materials prevention.

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Transportation/Facility Prevention Program Management

Category B: Larger, More Complex Operations
Recommended Training

_	ntify prevention program requirements and related considerations.
PPM/B-2.1	Describe guidelines and methods for researching prevention authorities and statutory mandates.
PPM/B-2.2	Describe guidelines and methods for organizing staff and consultants to conduct the review of authorities and statutory mandates.
PPM/B-2.3	Describe guidelines and methods for reporting and formatting the research results, and for briefing senior managers.
	ven an analysis of prevention program authorities, conduct and/or supervise a hazards alysis.
PPM/B-3.1	Describe guidelines and methods for identifying and categorizing hazards.
PPM/B-3.	Describe guidelines and methods for gathering data on hazardous materials processing, storage, transportation, and handling.
PPM/B-3.	1.2 Describe guidelines and methods for categorizing and classifying hazardous materials.
PPM/B-3.2	Describe guidelines and methods for assessing vulnerability associated with chemical hazards.
PPM/B-3.2	Describe guidelines and methods for identifying varying incident scenarios.
PPM/B-3.2	Describe guidelines and methods for assessing vulnerability associated with identified incident scenarios.
PPM/B-3.2	2.3 Describe guidelines and methods for assessing and correlating organizational emergency response and prevention capabilities with identified vulnerabilities.
PPM/B-3.3	Describe guidelines and methods for analyzing potential hazards.
PPM/B-3.5	Describe guidelines and methods for analyzing and quantifying potential hazards associated with incident scenarios.
PPM/B-3.	Describe guidelines and methods for prioritizing potential hazards.
PPM/B-3.4	Describe guidelines and methods for organizing staff and consultants to conduct a hazards analysis.
PPM/B-3.5	Describe guidelines and methods for documenting the hazard assessment results of a hazards analysis, briefing senior managers, and coordinating with other organizations.

ployee participation in prevention activities.

Transportation/Facility Prevention Program Management Prevention Category B: Larger, More Complex Operations Training Issues **Recommended Training** Describe legal requirements and guidelines for promoting employee participation and PPM/B-4.1 **Awareness** Prevention consultation in prevention activities. PPM/B-4.2 Describe the purpose and benefits of establishing a safety and health committee of employee and management representatives. Development Prevention Policy PPM/B-4.3 Describe strategies for structuring employee participation in all phases of the safety management process. PPM/B-5 Given the results of a hazards analysis, identify and assess options for educating and Prevention Program training employees. PPM/B-5.1 Describe legal requirements and guidelines for prevention education and training. PPM/B-5.2 Describe guidelines and methods for preparing a prevention program training needs assessment. Prevention Program Management PPM/B-5.3 Describe appropriate instructional methods and techniques for various prevention training needs. PPM/B-5.4 Describe the purpose and benefits of establishing a task force/committee to develop prevention training standards. Prevention in **Operations** PPM/B-5.5 Describe strategies for developing a prevention training plan, preparing courses, and marketing programs. PPM/B-5.6 Describe strategies for evaluating prevention training programs, certifying competence, **Design and Plans** and maintaining training records. Review PPM/B-6 Given the results of a hazards analysis, identify and assess options for promoting prevention in design and construction. Enforcement Inspection & PPM/B-6.1 Describe legal requirements and guidelines for promoting prevention during design and construction. PPM/B-6.2 Describe guidelines and methods for evaluating safety performance in the selection of Prevention Appendix A: Authorities design team members, equipment vendors, and construction personnel. PPM/B-6.3 Describe strategies for ensuring that prevention issues are adequately addressed in design specifications. 4ppendix B: Mandates Training PPM/B-6.4 Describe strategies for enhancing communications and cooperation among community officials, facility managers, and design team members. PPM/B-6.5 Describe guidelines and methods for monitoring construction and implementation of Programs Appendix C: design plans. Federal PPM/B-7 Given the results of a hazards analysis, identify and assess options for developing, maintaining, and disseminating process safety information.

Describe legal requirements and guidelines for developing and maintaining process

PPM/B-7.1

safety information.

Appendix D: OSHA

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PPM/B-7.2	Describe types and sources of process safety information commonly compiled, including material safety data sheets (MSDS).
PPM/B-7.3	Describe possible uses of process safety information in prevention activities (hazards analysis, planning, training, enforcement, etc.).
PPM/B-7.4	Describe requirements for labels and other forms of warning appropriate for employee protection.
PPM/B-7.5	Describe strategies for providing access to process safety information by employees and their representatives.
	ren the results of a hazards analysis, identify and assess options for promoting prevenduring operations.
PPM/B-8.1	Describe legal requirements and guidelines for promoting prevention during operations.
PPM/B-8.2	Identify criteria for distinguishing between routine and non-routine operations.
PPM/B-8.3	Describe the content and use of operating procedures and instructions, and how they relate to prevention and safety programs.
PPM/B-8.4	Describe strategies for researching, preparing, and formatting operating procedures and instructions.
PPM/B-8.5	Describe strategies for communicating operating procedures and making them accessible to employees.
PPM/B-8.6	Describe strategies for implementing, monitoring, testing, and periodically reviewing operating procedures.
	ren the results of a hazards analysis, identify and assess options for promoting contrac- safety.
PPM/B-9.1	Describe legal requirements and guidelines for promoting contractor safety.
PPM/B-9.2	Describe facility employer and contractor employer responsibilities for promoting worker safety.
PPM/B-9.3	Describe guidelines and methods for categorizing contract labor according to prevention requirements and responsibilities.
PPM/B-9.4	Describe guidelines and methods for evaluating safety performance and programs in the selection of contractors.
PPM/B-9.5	Describe strategies for informing contract employers about potential hazardous materials risks and applicable provisions of the emergency action plan.
PPM/B-9.6	Describe strategies for developing and implementing safe work practices to control the entrance, presence, and exit of contract employees.

Transportation/Facility Prevention Program Management Category B: Larger, More Complex Operations Prevention Training Issues **Recommended Training** Describe strategies for enhancing communications and cooperation between facility Awareness Prevention managers and contractors about health and safety issues. Describe strategies for monitoring and evaluating contractor safety training and job performance, and for maintaining contract employee injury and illness records. Development Prevention Policy Given the results of a hazards analysis, identify and assess options for conducting prestartup safety reviews. Describe legal requirements and guidelines for conducting pre-startup safety reviews. Prevention Program Describe strategies for ensuring that design plans are up to date and that construction is in accordance with design specifications. Describe strategies for ensuring that initial startup, operating, maintenance, and emergency procedures are in place and adequate. Prevention Program Management Describe guidelines and methods for identifying new training requirements for operating employees and confirming that training has been completed. Given the results of a hazards analysis, identify and assess options for ensuring mechanical integrity of operations equipment. Prevention in Operations Describe legal requirements and guidelines for developing maintenance and mechanical integrity systems and procedures. Describe guidelines and methods for identifying, categorizing, and prioritizing equip-**Design and Plans** ment and instrumentation for prevention activities. Describe strategies for developing quality assurance systems and procedures that address equipment installation, parts replacement, and supplies. Enforcement Inspection & Describe strategies for developing equipment maintenance procedures and schedules, and for training maintenance personnel. Describe guidelines and methods for developing criteria, frequency rates, and p dures for inspections and tests on specified equipment. Prevention Appendix A Describe guidelines and methods for determining acceptable equipment test redocumenting the results, and correcting related deficiencies. Given the results of a hazards analysis, identify and assess options for promoting p Appendix B. Training tion through management of change. Define "change" and parameters that determine nonstandard operations. Federal

PPM/B-9.7

PPM/B-9.8

PPM/B-10.1

PPM/B-10.2

PPM/B-10.3

PPM/B-10.4

PPM/B-11.1

PPM/B-11.2

PPM/B-11.3

PPM/B-11.4

PPM/B-11.5

PPM/B-11.6

PPM/B-12.1

PPM/B-12.2

PPM/B-12.3

PPM/B-12.4

Describe strategies to ensure that equipment and procedures are returned to their

original or designed conditions at the end of temporary changes.

PPM/B-12

PPM/B-11

PPM/B-10

and for training maintenance personner.	
Describe guidelines and methods for developing criteria, frequency rates, and procedures for inspections and tests on specified equipment.	_
dures for inspections and tests on specified equipment.	Auth
Describe guidelines and methods for determining acceptable equipment test results, documenting the results, and correcting related deficiencies.	Authorities
ven the results of a hazards analysis, identify and assess options for promoting preven- n through management of change.	Mandates
Define "change" and parameters that determine nonstandard operations.	<u>~</u>
	Pro
Describe legal requirements and guidelines for promoting prevention through management of change.	Programs
Describe guidelines and methods for defining and detecting temporary and permanent change in operations.	1910.11

PPM/B-12.5	Describe guidelines and methods to document changes and assure that safety and health considerations are incorporated into operating systems and procedures.
	ven the results of a hazards analysis, identify and assess options for conducting zardous materials safety inspections and enforcement activities.
PPM/B-13.1	Describe legal requirements and guidelines for conducting hazardous materials safety inspections and enforcement activities.
PPM/B-13.2	Describe guidelines and methods for establishing criteria and schedules for hazardous materials safety inspections.
PPM/B-13.3	Describe guidelines and methods for conducting safety inspections.
PPM/B-13.4	Describe guidelines and methods for determining acceptable inspection results, documenting the process, and notifying officials.
PPM/B-13.5	Describe guidelines and methods for enforcing compliance with inspection results and correcting related deficiencies.
	ven the results of a hazards analysis, identify and assess options for conducting mpliance safety audits.
PPM/B-14.1	Describe legal requirements and guidelines for conducting compliance safety audits.
PPM/B-14.2	Describe guidelines and methods for evaluating the effectiveness of safety management systems and programs.
PPM/B-14.3	Describe strategies and recommended personnel qualifications for staffing compliance safety audit teams.
PPM/B-14.4	Describe strategies for documenting and disseminating the results of compliance safety audits.
PPM/B-14.5	Describe strategies for ensuring that audit findings and recommendations are addressed and resolved.
	ven the results of a hazards analysis, identify and assess options for promoting preven- n through incident record keeping, reporting, and investigations.
PPM/B-15.1	Describe legal requirements and guidelines for promoting prevention through incident record keeping, reporting, and investigations.
PPM/B-15.2	Describe appropriate data gathering forms and procedures for incident reporting and record keeping.
PPM/B-15.3	Describe appropriate qualifications and experience of the incident investigation team, including requirements for employee participation and training.
PPM/B-15.4	Describe strategies to ensure that prevention concepts and techniques are considered in hazardous materials investigations.

PPM/B-16.3 Describe guidelines and methods for coordinating the planning process and communicating results to senior managers and community officials.

PPM/B-17 Given a prevention program management plan, conduct and/or supervise the implementation, evaluation, and continual refinement of the prevention program.

PPM/B-15.5

PPM/B-16.1

PPM/B-16.2

addresses:

PPM/B-16

PPM/B-17.1 Describe strategies and methods for implementing prevention program elements, activities, and procedures.

PPM/B-17.2 Describe strategies and methods for monitoring, evaluating, and continually refining prevention program elements, activities, and procedures.

PPM/B-17.3 Describe common shortfalls and opportunities in implementing, evaluating, and maintaining hazardous materials prevention programs.

Prevention Training

Prevention